



# COMPLICATED AMOEBIC LIVER ABSCESS WITH HEPATIC VEIN AND IVC EXTENSION

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## ABSTRACT

Amoebic liver abscess is common disease in developing country and is the most common extraintestinal manifestation of *Entamoeba histolytica* infection. Usual complication of ALA is leakage of the abscess into the pleural cavity, with formation of empyema thoracis, intra-abdominal following perforation into the peritoneal cavity and rarely life threatening vascular complications such as venous extension of the disease into hepatic veins and IVC can occur, with only few cases reported. Author describe a case of amoebic liver abscess extending across middle hepatic vein into IVC.

**KEY WORDS:** amoebic Liver Abscess, Thrombus, IVC.

## CASE REPORT:

A 47-year-old male, alcoholic for last 10 years, presented with high grade fever with chills and right-sided abdominal pain, for 10 days. On examination, he was febrile. Blood pressure was 140/85 mm Hg, pulse rate 100 beats/min. On per abdomen examination abdomen was mildly distended, and tender in the right hypochondrium. The liver was enlarged, firm, tender, and smooth. Blood investigations revealed a hemoglobin level of 13.2 gm/dL, leucocyte count 19,900/mm<sup>3</sup> with predominantly polymorphic leukocytosis. Liver function tests showed SGOT of 100 IU/L and SGPT of 105 IU/L. The bilirubin, urea and creatinine were normal. Ultrasound of the abdomen showed hypoechoic rounded lesions in right lobe of liver suggestive of liver abscess.

A multidetector computed tomography (MDCT) scan of the abdomen was advised and revealed multiple abscesses with one larger abscess in segment VIII of right lobe liver showing irregular peripheral wall enhancement and it was located in close proximity to middle hepatic vein and Inferior vena cava (IVC). Abscess was focally infiltrating the adjoining wall of middle hepatic vein (MHV) with thrombus formation and was further extending across MHV into suprahepatic IVC, there was no extension of thrombus into right atrium [Fig 1A, B, C, D]. The patient was treated with intravenous antibiotics (metronidazole and ceftriaxone). Under ultrasound guidance, anchovy sauce like fluid was aspirated. Amoebic serology was positive. The patient was discharged in good condition and lost to follow up. In our case, an amoebic liver abscess showed unusual complications of venous extension of abscess with thrombus formation.

## DISCUSSION:

Amoebic Liver Abscess (ALA) is most common extraintestinal manifestation of amebiasis caused by *Entamoeba histolytica* and spread to liver through hematogenous route, and is endemic in India. The 3-9% of all cases of amebiasis show liver involvement with a liver abscess (1, 2). The right lobe of liver is affected more common than left lobe (3). Alcohol has been described as the single most predisposing factor for ALA (4). Usual complications of ALA are pleuropulmonary, intraperitoneal rupture, subhepatic effusion, subphrenic abscess and jaundice (4, 5). Vascular complications with thrombosis of hepatic vein or IVC is rare complication of ALA (6-14). Amebic liver abscess complicated with hepatic artery pseudoaneurysm formation and extension of thrombus into right atrium has also been reported (10, 14).

In present case, amoebic liver abscess in segment VIII of right lobe of liver showed direct extension of abscess into MHV with thrombosis which was further extending into IVC. No extension into right atrium was seen.

The cause of venous thrombosis in ALA is not clear. Possible mechanism can be external mechanical compression and predisposed thrombotic state due to inflammatory process associated with abscess (6, 11, 14). Coagulation system should also be assessed in order to rule out a pre-existing thrombotic state.

The possible association between hypercomplementemia and IVC thrombosis in patient of ALA has also been described with increased tendency for thrombosis related to complement proteins. Complement and coagulation system act together and enhance each other's effect which are crucial for defence against infective agents (12).

In present case the ALA was in close proximity to MHV and was abutting it and inflammatory process in wall of ALA may have spread and caused injury to the hepatic vein wall, followed by thrombosis and further extension into IVC.

MDCT is ideal to detect liver abscesses and its associated complications. Hepatic abscess in close proximity to the IVC or hepatic veins should be investigated for any venous invasion.

The ALA with IVC thrombosis is usually managed with antibiotics and drainage of the abscess with anticoagulation therapy may be needed in few cases. The literature also supports non-operative management even in complicated ALA as well. In case of thrombus extension up to right atrium, aggressive management and thrombectomy may be required to reduce chances of pulmonary embolism (14).

## TEACHING POINT:

Timely diagnosis of ALA and its usual and unusual complication help in appropriate and early treatment and may prevent patient from life threatening complication of pulmonary embolism in case of venous thrombosis due to abscess. MDCT help in diagnosis and demonstrate the liver abscess and its complications very well.

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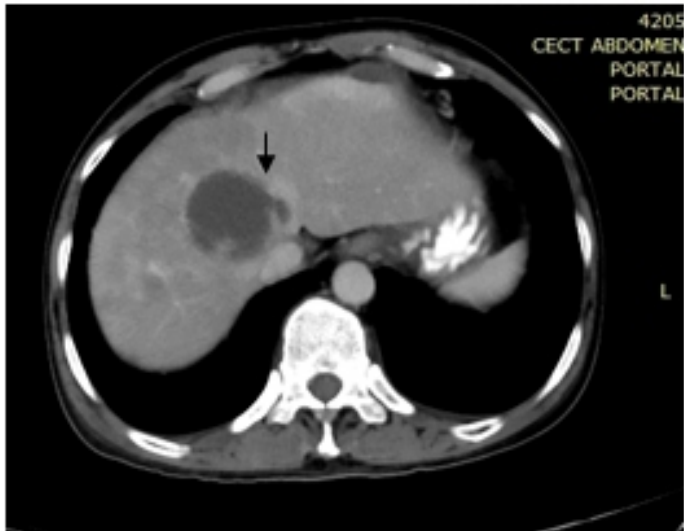


Image 1 A

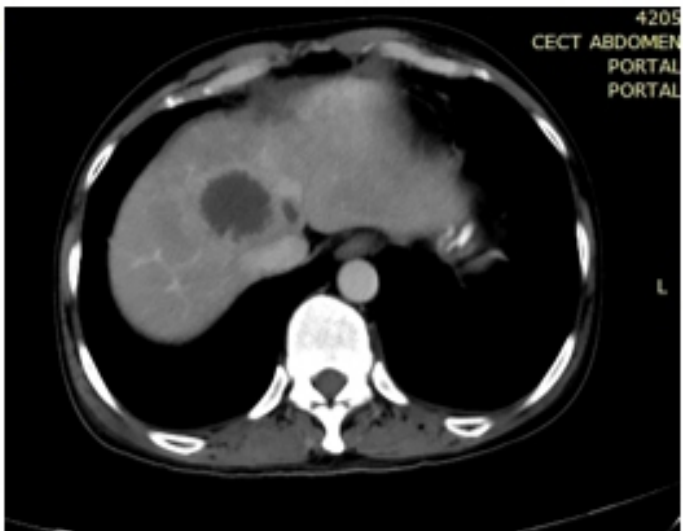


Image 1B

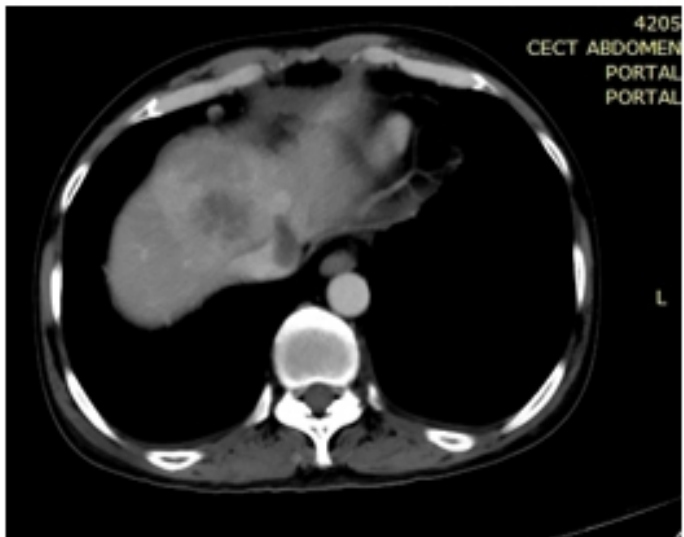


Figure 1.A,B,C,D. Abscess in right lobe of liver showing extension (arrow) into adjacent hepatic vein and IVC.